Meeting Notes
California State Lands Commission
Performance Standards Technical Advisory Panel Meeting #3
Wednesday, June 22nd, 2005

Meeting Attendance

Marian Ashe - CA Department of Fish & Game	Steve Moore – SF Bay Water Board (Conference line)
John Berge - Pacific Merchant Shipping (Conference Line)	Sarah Newkirk - Ocean Conservancy (Conference Line)
Andrew Cohen - SF Estuary Institute	Greg Ruiz – SERC
Maurya Falkner – CSLC	Scott Smith – State of WA Fish & Wildlife Service (Conference line)
Suzanne Gilmore – CSLC	Lisa Swanson - Matson Navigation
Jeff Herod – US Fish & Wildlife Service	Mark Systma – Portland State University (Conference line)
Marc Holmes – The Bay Institute	Lynn Takata – CSLC
Bill Jennings – Delta Keeper	Kim Ward - SWRCB (Water Quality Division)
Giselle Johnston – CSLC	Nick Welschmeyer - Moss Landing Marine Laboratories (Conference line)
Jackie MacKay – CSLC	

Meeting Materials
- Power Point file: Summary of Treatment Technologies (Attachment A)
- Power Point file: Economic facts & figures (Attachment B)
- Timeframe of Implementation for other Programs with Standards (Attachment C)
- Power Point file from April 27th meeting: Andrew Cohen (Attachment D)
- Overhead slides: Andrew Cohen (Attachment E)
- Table of Concentration comparisons (Attachment F)

Welcome & Introductions

Summary & Overview of Ballast Water Treatment Technologies (Attachment A)

Treatment Technology Discussion
Scott Smith of the Washington Ballast Water Program discussed several points around the subject of treatment technologies:
- WA is looking into SeaClean as a biocide for treatment
- WA has approved the Optimar UV light system which will be applying to the USCG step program
    - Approval is specific to individual vessels only
    - Recently finished testing the Optimar system although the testing and results have not been peer reviewed
- WA will accept any system once it is approved through the STEP program

Treatment Systems installed onboard operational vessels:

- The Optimar system which was installed on Matson's RJ Pfeiffer has not been used regularly following its initial testing because that vessel does not normally discharge ballast in port. So far, there have been reports of operational problems with UV bulbs and the control panel is proving to be difficult to use.
- The Coral Princess of Carnival Cruises also installed the Optimar system in 1999 but has yet to complete and/or provide data from evaluation voyages.
- The Nutech system is currently being tested by Mario Tamburri in the Chesapeake Bay. Three voyages are planned to evaluate the system this fall on a towed barge with several treatment and control tanks for comparison.
- An electrolytic chlorination treatment system intends to participate in the STEP program. Severen Trent is involved with this treatment system which has a de-chlorination process using sulfide.
- Glosten Associates was contracted in WA to compile a review of all the treatment systems that have undergone testing. The report should be released in July 2006; Scott has an outline for this project and would be willing to share.

Issues with treatment system testing were briefly discussed:

- A set of standardized tests have yet to be developed for evaluating treatment systems
- The lack of standardized testing makes comparing efficacies between systems highly problematic and nearly impossible
- All shipboard tests that have data available represent small sample sizes
- Results of system tests are typically contained in grey literature reports, and are thus not peer reviewed

It was noted that a major objective should be to set the standard and then let the industry figure out how to meet the standard. Instead of allowing the capabilities of current treatment systems drive the formulation of standards, we should focus on ballast water tank biota. Sarah Newkirk agrees with this concept, although she mentioned the higher degree of education we have about available technologies, the stronger our argument will be once standards are recommended.

Steve Moore commented that biological invasions are a form of permanent pollution whereas standards for other types of pollution standards pertain to instantaneous pollutants. Biological NIS "pollutants", for this reason, warrant a more preventative approach. Areas of uncertainty should be considered in the process. This may mean that we set achievable standards with recommendations for the best available technology to be applied as it emerges.

John Berge mentioned that the industry would prefer to have a seal of approval for a particular technology, then periodic certification that the system continues to meet a specified level of effectiveness. Another perspective was that a standard should be set, and then the industry should be responsible for meeting it by choosing which system to use.

Shore-side treatment:

- Glosten Associates found that the cost to retro-fit five vessels for a mobile/shoreside facility would be more expensive than to install onboard treatment systems.
- East Bay Mud has expressed interest in shore side treatment, although no plans to develop a facility have been made.

Economic Data Discussion (Power Point file Attachment B)

John Berge brought up that there is little relationship between the cost of cargo and the cost of shipping. Maurya asked representatives of the shipping industry if they had come up with (as addressed from the last meeting) any estimates or numbers relevant to economic value. No numbers or estimates were available.

If there is no relationship between the cost of cargo and the cost of shipping, then what is the correct question to ask? (Question answered by John Berge):

- To determine whether the industry is making or losing money, the Baltic Exchange provides Charter rates for tonnage.
- In general, when transport capacity is high, shipping prices will decrease. Prices increase when the capacity decreases.
- Cost of transport will also change according to vessel age and other factors that influence vessel operation costs.
- As long as competitors are paying the same price for ballast treatment, the cost of treatment will be less impacting. It is likely that once there is a standard for treatment out technology which is not economically feasible will be driven out.

Several panel members discussed the issue of incentive to treat ballast and the difficulties of beta testing:

- If the onus falls with one or two commercial carriers, and if it is determined that the cost of installation is not worthwhile, the costs for beta testing are not distributed across the industry equally.
- In the past, funds available for beta testing have been extremely low

Discussion took place regarding possible economic impacts:

- If a producer or shipper is only marginally profitable, it is possible that treatment standards could create economic stress on them, driving some out of business. In terms of the global economy, the implementation of treatment standards may therefore not result in an economic “level playing field.”
- When an invasion proves to be problematic, there is potential for large economic impacts.
    - It is the public who ends up paying for the adverse impacts.
    - If treatment systems are installed onboard vessels, costs are distributed more evenly, and are ultimately passed on to the consumer.
    - Without these treatment technologies, the economic impacts of some biological invasions will be felt disproportionately by taxpayers only.

Andy Cohen's PPT slides and overheads (Attachment D & E)
The first few slides revisited information from the April 27th meeting (Attachment D):

- 'Natural' rate of invasion is estimated to be 1 every 10,000 years
- Need to consider technical feasibility.
- When SF Bay Delta Ballast discharge is compared to waste water treatment systems, it suggests that capacity should not be an issue for shore-side treatment.

Main points from overhead slides (Attachment E):

- Use ideas of phase-in for newer vs. older vessels, and three organismal class sizes
- Assume the relationship between propagule discharge and invasion rate is linear
- Costs of treatment projections may be low or wrong (see attachment for figures)
- Overview of economic indicators
    - Value of cargo in CA is approximately $260 billion in 2003
    - Jones Act fleet handles $222 billion of goods, suggesting $1.5 billion in CA
    - Estimated profits per vessel type
    - SF Chronicle article: "Its full steam Ahead for Port of Oakland and Los Angeles" – Indicates that amount of cargo coming into California is growing and is projected to increase into the foreseeable future.
- Brief discussion took place regarding economic feasibility and economic indicators
    - Although shore-side treatment may be technically feasible, the CAPA report found that the cost for plumbing, permits and CEQA assessment would increase these costs.
    - The metric used in the CAPA report to estimate costs are low for ports/vessels that discharge small amounts of ballast and high for ports/vessels that discharge large amounts of ballast.

Summary of Group Discussion
Key ideas relevant to time-frame and implementation:

- Air quality emission standards have a system where the equipment installed has a grace period to meet the standards.
- Ballast water treatment technology should be developed so that a system can be upgraded as standards become more stringent over time.
- Most successful environmental regulations in the past have implemented standards which then drive technology. We should therefore concentrate less on discussing what treatments are out there, and more on what numbers should be for the standard.

Areas of Agreement

- Standard should be better than current scenario (Ballast water exchange)
    - Majority agree – 1 disagree
    - Suggestion: Decide on how much better. Begin with discussions on the following, and zero in on specific numbers for standards.
        - Minimum efficacy acceptable
        - Maximum efficacy acceptable
        - Absolute maximum: *0 (Limited by detection limits, technological availability)

- Phase-in framework?
- Organism size class framework?
- Consider adopting the IMO standard until the US Federal standard is adopted

Current Action Items:
- Distribute information on the STEP program to the advisory group
- Distribute information on the age of vessels calling to California ports
- Table of program standards & corresponding timeframes (IMO, SB 363, SB 1224)
- Further information from gray literature on available treatment systems (?)
- Further information on economic trends (?)

Adjourn: 1:15 pm